



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET

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TO

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FROM: Daniel H. Taft

As we discussed, attached is the
METSAT issue paper. We will try
to keep you informed of any other
developments.

Issue Paper
Crosscutting Review of Space Programs
1980 Budget
Issue #1: Polar-orbiting Meteorological Satellites

Background

The United States presently maintains separate military and civilian polar-orbiting meteorological satellite systems. The Air Force maintains two satellites (called DMSP) on orbit at all times for providing cloud-cover information for meeting DOD strategic and tactical needs. Weather-related observations are supplied to the Air Force Global Weather Central, Navy Fleet Numerical Weather Central and mobile processing units in military theatres worldwide. The Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) also maintains a satellite system (referred to as TIROS-N) which provides data to its National Weather Service and atmospheric/oceanic research programs and contributes to international weather programs under which the U.S. has assigned responsibility.

In 1973, the potential for consolidating the DOD and NOAA programs was reviewed by an OMB-directed study. The study generally concluded that, technically, requirements for both civilian and military activities could be met by a common system. However, that recommendation was not followed because it was felt that merging military and civilian meteorological activities would adversely affect U.S. participation in international meteorological programs. State argued that other nations would be reluctant to have military participation and much international goodwill would be lost. DOD has argued that direct support to operational military commanders required command and control by DOD.

It was decided that separately managed military and civilian activities would be continued with a coordinating board called the Polar-Orbiting Operational Satellite Control Board (POOMSCB), established to minimize duplication of effort and maximize information exchange. It was also decided that the two systems would utilize as much common hardware as possible although there are independent development programs. Currently, DOD handles all of its own spacecraft development, procurement, and ground stations. NASA conducts development efforts for NOAA space programs, but procurement and operational control is assumed by NOAA once R&D is completed.

No major budgetary decisions are required in FY 1980 since the agencies will not be ready to present specific proposals for the next generation of polar-orbiting satellites until the 1981 budget review. However, four developments make a reassessment of the current arrangements germane to the FY 1980 budget review:

- ° As a result of PD-42, the Policy Review Committee (Space) is scheduled to assess by April 1, 1979, the feasibility and policy implications of consolidating military and civilian weather satellite programs while satisfying security, survivability, and other requirements directed in PD-37. In this regard, it is possible that the policy concerns which previously precluded consolidation may have diminished or changed.
- ° The POOMSCB coordinating group is proceeding with a study of future system convergence which will be completed by January 1979. This study is supposed to analyze convergence alternatives, identify policy issues associated with each alternative and make recommendations on meteorological satellite convergence. Before the 1981 budget is submitted, a decision must be made based on feasibility, efficiency, and cost-benefit on whether the two systems should be merged. Should a single system be directed, the question of timing and who would develop and operate it would also need to be addressed.
- ° DOD and NOAA/NASA are beginning to study next-generation meteorological satellite designs for launch by the Shuttle in the 1985 time period. DOD has \$3.6 million in its FY 1980 budget to begin preliminary design work. NASA has \$1.5 million for initiating design studies for a follow-on developmental satellite for NOAA. The agencies have been informally coordinating their development efforts, but each has been emphasizing its particular needs, and divergence rather than convergence may result unless specific policy guidance is provided at this time. In addition, agency planning does not seem to be emphasizing how to design the system for optimum utilization of the Shuttle's capabilities.
- ° A new initiative for a polar-orbiting National Oceanic Satellite System (NOSS) has been proposed in the FY 1980 budget (see Issue #2). This system would be developed by NASA and operated by NOAA and DOD. Some similar types of data can be acquired by spacecraft platforms flown for this mission and the meteorological satellite programs. Therefore, the possibility of merging these similar functions should be considered.

Statement of Issue

What guidance should be given to agencies now concerning consolidation of their polar-orbiting meteorological satellite programs?

Alternatives

1. Allow the agencies to proceed with their present efforts to consider convergence in the design and operation of the next-generation of meteorological satellites.
2. As part of the policy review outlined in PD-42, direct the agencies (DOD and NOAA/NASA) to study opportunities for major program efficiencies from consolidation of current and next-generation civil and military systems for performing polar-orbiting missions. Further direct that alternate approaches which maximize the cost-effective utilization of the Shuttle be examined (e.g., on-orbit testing, retrieval and refurbishment). Pending completion of this review, direct the agencies against taking any steps which might lead to further divergence of the two systems. Do not include any out-year funding for acquisition of the next-generation satellite systems until convergence issue is resolved. (OMB rec.)

Expected Effects and Reactions to be Considered

As shown in the attached table, the U.S. is currently spending about \$100 million per year on civil and military meteorological programs, with spending projected to increase to about \$200 million per year within the next two years. A large part of this expenditure is for similar capabilities. While we are not able to make specific estimates at this time, significant savings appear to be possible from merging the two systems. Savings could result from elimination of duplicative research and development, more efficient operations, and procurement of fewer satellites.

Alternative #1 would probably result in continuation of about the same degree of convergence in the design and operation of meteorological satellite systems as happened in the 1973 review. Thus, there probably would be considerable common development of subsystems and perhaps a common space platform. However, it is likely that there would also be much divergence in system design and assuredly the continuation of two separately organized and controlled weather satellite networks.

Alternative #2 would require the agencies to consider the question of a single satellite design and a single operational system under the control of one agency. The agencies would also be directed to examine a single polar-orbiting meteorological satellite system which would perform the most important meteorological and oceanic requirements in a single system (i.e., a combined meteorological/NOSS system). Under Alternative #2, the agencies would be constrained from committing FY 1979 or FY 1980 funds leading to acquisition of a particular system for a next-generation polar-orbiting meteorological satellite system until a decision has been made concerning future system consolidation (unless the concerned agencies and OMB agree that the proposed use of funds is consistent with convergence objectives).

Alternative #2 would be contentious with the agencies, particularly with respect to placing one agency in charge of a single consolidated meteorological satellite system since each agency would be reluctant to depend upon the other to provide for its requirements. However, the requested study should force a prioritization in ranking of requirements and capabilities of meeting them which would greatly assist the FY 1981 budget review. Furthermore, Alternative #2 would not significantly delay future programs because of the low level of funding involved in this early stage and because the decision on future system consolidation should be made before these funds are expended in any case.

Alternative #2 would also force the consideration of an earlier merger of the two meteorological satellite systems (even before the next-generation weather satellite is operational in the mid-1980's). If the policy considerations which prevented such a merger in 1973 are no longer controlling, this may be viable.

Recommendation

OMB staff recommends Alternative #2.

Note: Since this issue does not have significant FY 1980 budget implications and depends on the results of studies yet to be accomplished, no alternative funding levels have been presented. However, the attachment provides summary funding data on the currently planned programs of the agencies.

Attachment

Crosscutting Review of Space Programs
1980 BudgetSummary Data for Polar Orbiting Meteorological Satellites
(Dollars in millions)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Department of Commerce (NOAA)							
Hardware	32	27	16	20	36	40	44
R&D (NASA)			2	18	45	42	17
Operations	<u>17</u>	<u>18</u>	<u>19</u>	<u>19</u>	<u>19</u>	<u>19</u>	<u>19</u>
Subtotal	49	45	37	57	100	101	80
Full-time Permanent Personnel	(264)	(273)	(277)	(280)	(280)	(280)	(280)
Department of Defense (Air Force)							
Hardware	58	55	38	65	40	42	90
R&D	8	13	21	46	47	50	38
Operations	<u>1/</u>	<u>6</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>
Subtotal	66	74	66	118	94	99	135
Full-time Permanent Personnel 2/..	(464)	(464)	(464)	(464)	(464)	(464)	(464)
Total							
Funding	115	119	103	175	194	200	215
Full-time Permanent Personnel	(728)	(737)	(741)	(744)	(744)	(744)	(744)

1/ Operations costs were not separated from other program costs prior to FY 1979.

2/ These figures include only personnel working directly on Air Force MetSat programs.